NASA Procedural Requirements

NPR 8553.1C

Effective Date: July 20, 2020

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Subject: NASA Environmental Management System
Responsible Office: Environmental Management Division

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PREFACE

P.1 Purpose

a. The purpose of this National Aeronautics and Space Administration (NASA) Procedural Requirement (NPR) is to provide the structure for an overall Agency approach to managing environmental activities that allows for an efficient, prioritized system execution. It describes NASA's approach to establishing, implementing, and maintaining an Agency Environmental Management System (EMS) whose objectives are improved environmental performance and effective execution of applicable compliance obligations. The EMS:

(1) Incorporates personnel, procedures, and work practices into a formal structure to ensure that the environmental risks and opportunities associated with NASA operations are identified and addressed.

(2) Promotes continual improvement, through pursuit of pollution prevention and periodic evaluation of environmental performance.

(3) Involves all members of the organization, as appropriate.

(4) Ensures accountability of Center management by integrating EMS requirements into day-to-day operations and ensuring that adequate resources are available to maintain an effective EMS.

b. This NPR is intended to function in conjunction with the NASA Safety and Health Program, including loss-prevention priorities and risk management. As described in NPR 8000.4, Agency Risk Management Procedural Requirements, risk management includes two complementary processes: risk-informed decision-making (RIDM) and continuous risk management (CRM). Since the EMS and risk management procedures proactively identify potential positive or negative impacts from NASA products, activities, and services, the EMS supports an Agency approach to managing environmental risks that may simultaneously affect multiple programs, projects, and mission support activities.

P.2 Applicability

a. This NPR applies to NASA Headquarters (HQ) and NASA Centers, including Component Facilities and Technical and Service Support Centers, when determined to be appropriate by NASA HQ or the host or parent Center.

b. This language applies to the Jet Propulsion Laboratory (a Federally-Funded Research and Development Center) and to the operations and personnel of contractor-operated facilities, short- and long-term contractors, partners, tenants, concessionaires, grant recipients, and/or parties to agreements, to the extent that an environmental risk is identified, but only to the extent specified or referenced in the applicable contracts, grants, or agreements.

> *Note: This statement alone is not sufficient to stipulate requirements for tenants, contractors, partners, concessionaires, and/or grant recipients. The management offices responsible for procurement actions shall ensure that all contracts, grants, or agreements need to specifically state the applicable requirement(s) from this NPR.*

c. In this NPR, all mandatory actions (i.e., requirements) are denoted by statements containing the term "shall." The term "may" denotes a discretionary privilege or permission, "can" denotes statements of possibility or capability, "should" denotes a good practice and is recommended, but not required, "will" denotes expected outcome, and "are/is" denotes descriptive material.

P.3 Authority

a. National Aeronautics and Space Act, 51 U.S.C. §Chap. 20101 *et seq*.

b. NASA Policy Directive (NPD) 8500.1, NASA Environmental Management.

P.4 Applicable Documents and Forms

a. NPD 1210.2, NASA Surveys, Audits, and Reviews Policy.

b. NPR 1441.1, NASA Records Management Program Requirements.

P.5 Measurement/Verification

a. For Agency-level requirements, NASA HQ Environmental Management Division (EMD) will establish a schedule of metrics to be documented and reported.

b. The NASA HQ EMD will conduct an Environmental and Energy Functional Review (EEFR) of each Center every 3 years.

c. Each Center's management will ensure an internal audit of the EMS and environmental compliance is conducted annually, excluding the year that an external EEFR is performed.

P.6 Cancellation

NPR 8553.1B, NASA Environmental Management System, dated September 22, 2009.

Chapter 1. Context of the Organization

1.1 The Organization and Its Context

NASA's environmental management strategy is documented in NPD 1000.3, The NASA Organization, and NPD 8500.1, NASA Environmental Management, and supported by this NPR. See specifically Table 3-1, Environmental Aspect Categories, and Table 3-2, NASA Risk and Opportunity Categories.

1.2 Needs and Expectations of Interested Parties

1.2.1 Center management shall, to the extent possible, identify those interested parties whose needs and expectations may rise to the level of compliance obligations and document Center-specific interested parties and associated agreements and compliance obligations in Table 3-1, Row 17.

1.2.2 Examples of potential interested party agreements that may address compliance obligations include:

a. Contracts.

b. Mutual aid agreements with local emergency responders.

c. Host-tenant agreements.

d. Partnerships.

e. Concessionaire agreements.

f. Memoranda of understanding.

g. Commercial Space Launch Act agreements.

h. Reimbursable Space Launch Act agreements.

i. Land use agreements.

j. Programmatic agreements with the State Historic Preservation Officer (SHPO).

k. Center-specific Biological Opinions.

1.3 Scope of the EMS

1.3.1 The HQ EMD shall define and document the scope of the HQ EMS. At a minimum, the scope of the HQ EMS will include HQ operations, activities, and programmatic decisions, including, particularly, those affecting Center operations. The scope of the HQ EMS will be made available to interested parties via NASA EMD's public-facing Web site.

1.3.2 Management of each Center shall define and document the scope of the Center's EMS, which at a minimum:

a. Fully describes all NASA organizational elements that are participating in the EMS, and

b. Clearly identifies those tenant and contractor operations and any other interested parties that are required to participate in the EMS.

1.3.3 Center management shall ensure that those who draft procurement requirements routinely coordinate with environmental staff to ensure that all contracts for goods and services require the contractor to comply with the EMS, to the extent defined by HQ EMD and Center staff responsible for environmental performance.

1.3.4 For any contractor, partner, and/or tenant organization, including lease arrangements, excluded from the scope of the EMS, each Center's staff responsible for environmental performance shall:

a. Identify the rationale for the exclusion.

b. Confirm that all possible environmental compliance risks associated with the activities of the excluded organization, as well as technical, economic, and other potential effects, have been evaluated.

1.4 EMS General Requirements

1.4.1 The Center Director, when determined to be appropriate by NASA HQ shall develop, implement, and maintain an EMS in accordance with this NPR.

1.4.2 Annually, Center management shall ensure that the EMS and Environmental Management Programs (EMPs) are assessed and updated.

1.4.3 Center management shall review the results of the assessment of the EMS and EMPs (see Chapter 7, Management Review, for details).

1.4.4 The Center Director shall issue an EMS Declaration of Conformance, in accordance with Chapter 7 of this NPR. Centers may seek external EMS certification; however, external certification is not required.

Chapter 2. Leadership

2.1 Leadership and Commitment

2.1.1 The role of the NASA HQ EMD is to implement applicable requirements of NPD 1000.3 related to Agency-wide environmental issues and initiatives and NPD 8500.1.

2.1.2 The Assistant Administrator for Strategic Infrastructure, as the senior Agency official responsible for providing executive and functional leadership for environmental management, is responsible for the following:

a. Ensuring that the HQ EMS Representative has the responsibility and authority to implement and maintain the HQ EMS across Mission Directorates and Mission Support Offices.

b. Periodically reviewing the HQ EMS for status and viability and, if appropriate, leading the assessment, analysis, and preparation of environmental matters to be considered by the NASA Mission Support Council.

c. Monitoring implementation of recommendations of the NASA Mission Support Council related to the HQ EMS across Mission Directorates and Mission Support Offices.

d. Developing a Declaration of Conformance for the HQ EMS.

2.1.3 NASA HQ EMD is responsible for the following:

a. Establishing and maintaining NASA environmental policy, requirements, and guidance.

b. Defining and maintaining NPR 8553.1, NASA Environmental Management System.

c. Establishing and maintaining implementing instructions for the NASA EMS.

2.1.4 The Center Director[1] is responsible for the following:

a. Implementing NASA environmental policy and requirements.

b. Defining and documenting the scope of the Center EMS.

c. As applicable, delegating Component Facility environmental management responsibilities to an appropriate Component Facility NASA authority.

d. Appointing an EMS Representative with appropriate authority, background, and training.

e. Providing the authority needed for the EMS Representative to implement and maintain the Center EMS.

f. Providing resources for the effective implementation, operation, and maintenance of the Center EMS.

[1] At JPL, this role is carried out by the NASA Management Office.

g. Periodically reviewing the Center EMS for status and viability. (See Chapter 7, Management Review, for details.)

2.1.5 The Center EMS Representative is responsible for the following:

a. Exercising the authority necessary to implement and maintain the Center EMS.

b. Determining and requesting the resources necessary to implement and maintain the Center EMS.

c. Establishing a Center EMS Cross-Functional Team (CFT) representing those organizations that affect environmental aspects or have support roles, including mission organizations and mission support organizations, such as facilities, energy management, vehicle management, logistics, procurement, legal, safety, health, and emergency response. Component Facilities, partners, contractors, and tenants participating in the EMS also will be represented, to the extent established in their contract or agreement.

d. Coordinating implementation of objectives, targets, and associated EMPs with affected Center organizations.

e. Periodically assessing, reviewing, and reporting to Center management on the performance of the Center EMS.

f. Making recommendations to Center management for improvement of the EMS.

2.1.6 Management at each NASA Center is responsible for the following:

a. Ensuring that request originators or the acquisition planning team coordinate with the responsible EMS Representative to determine the applicability of the EMS to Center procurements to satisfy EMS-related requirements of the Federal Acquisition Regulations. When a determination is made that the EMS is applicable, the management office responsible for procurement actions shall ensure that procurement request packages list applicable EMS and environmental requirements.

b. Determining the applicability of the EMS to its tenants, subject to the limitations of tenancy agreements. When a determination is made that the EMS is applicable, Center management will ensure that EMS and environmental requirements for tenants are incorporated into future tenancy agreements.

c. If requested, assisting the HQ EMD in defining the scope of the HQ EMS.

d. Reviewing and providing comments to the HQ EMD on NASA environmental information, policy, requirements, and guidance.

2.1.7 The Component Facility NASA authority shall be responsible for implementation of an EMS that corresponds to the environmental responsibilities delegated by the Center Director. The Component Facility EMS may be separate from or a subset of the Center EMS.

2.1.8 Center management shall ensure that request originators or the acquisition planning team incorporate a requirement for participation in the Center EMS, as determined appropriate, into Center contracts no later than the time of the next competition for the contract.

2.2 Environmental Policy

2.2.1 NPD 8500.1 is NASA's internal environmental policy. This NPD establishes that NASA will maintain compliance with applicable environmental legislation and regulations and with other obligations to which NASA subscribes. It includes a commitment to protection of the environment, prevention of pollution, and continual improvement of NASA's environmental program and commits to incorporate sustainable practices, to the extent practicable, throughout programs, projects, and activities. In addition, it establishes more specific responsibilities for each NASA employee, each NASA organizational element, and appropriate HQ and Center organizations and managers.

2.2.2 NPD 8500.1 is consistent with Policy on Environmental Quality and Control, 14 CFR Subpt. 1216.1 and made available to both interested parties and the NASA community, as appropriate.

2.2.3 Center management shall develop an environmental policy as an element of its EMS and ensure that this policy includes commitments to protection of the environment, continual improvement, prevention of pollution, and compliance with all compliance obligations to which the Center is subject to, as related to its environmental aspects. The following requirements apply to the policy:

a. It is appropriate to the nature, scale, and environmental impacts of the activities, products, and services of the Center.

b. It provides a framework for setting and reviewing environmental objectives and targets.

c. It is communicated to all persons working within the scope of the EMS.

d. It is documented, maintained, and made available to interested parties.

Chapter 3. Planning

3.1 Risks and Opportunities

Center management shall determine the risks, opportunities, and compliance obligations that must be addressed within the scope of the EMS, including reasonably foreseeable emergency situations that may have an environmental impact.

3.1.1 Environmental aspects

a. Center management shall follow each of the steps described below to identify priority environmental aspects essential to developing the EMS. Center employees are expected to apply best professional judgment during this process.

b. Figure 3-1 and notes illustrate the recommended order of steps for this process. Center management will complete all steps.

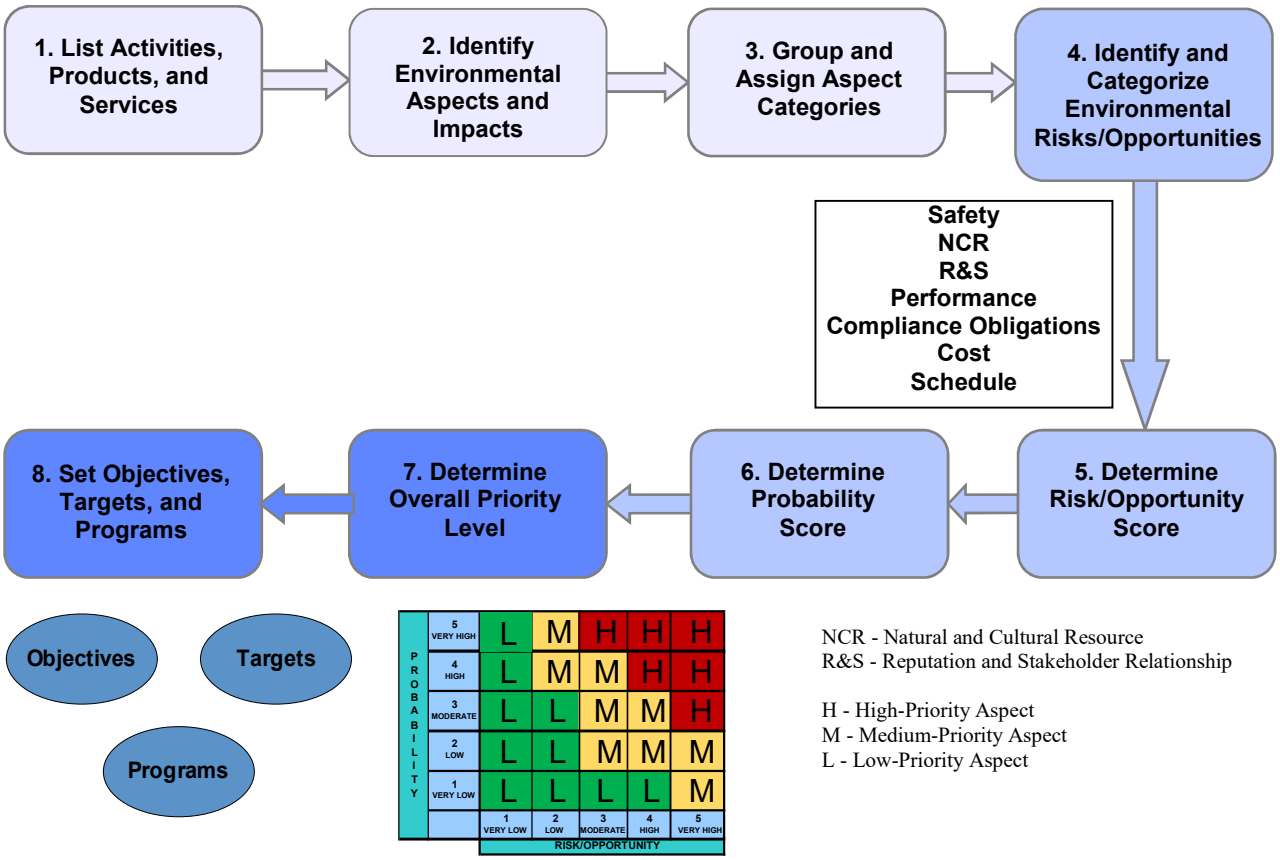

Figure 3-1, Flow Diagram of Overall Process for Identifying Environmental Aspects and Impacts, Identifying Risks and Opportunities, and Determining High-Priority Environmental Aspects

3.2 Flow Diagram Steps

a. In Steps 1 to 3, a list of environmental aspects and impacts is developed, and the environmental aspects are grouped into categories.

b. Once environmental aspects have been categorized, Steps 4 to 6 assign applicable risks/opportunities and associated severity and frequency.

c. To establish the level of priority for an environmental aspect, the priority associated with the environmental impact is defined in Step 7 using a combination of the severity and probability of the associated risk or opportunity.

3.2.1 Step 1: List all activities, products, and services.

Within the scope of its EMS, each Center Director shall identify all activities, products, and services under NASA's direct control, as well as those activities, products, and services over which it has control or influence, based on the nature and scale of its operations.

3.2.2 Step 2: Identify environmental aspects and impacts.

a. Center management shall determine the environmental aspects and impacts associated with the activities, products, and services identified in Step 1, considering:

(1) Past activities, products, and services with environmental aspects and impacts that potentially require management in the present or future.

(2) Environmental aspects and impacts associated with activities, products, and/or services that are planned for the future, with a reasonable degree of certainty.

(3) In the identification of present and future environmental aspects and impacts, normal, abnormal, and emergency conditions that can be reasonably foreseen as well as lessons learned from past activities.

(a) Where separate environmental aspects and impacts have been identified based on consideration of normal, abnormal, and emergency conditions, each environmental aspect and impact is subject to Steps 4 through 7 below.

(b) Where risks or opportunities or their severity or probability (see Steps 4, 5, and 6) vary, depending on different conditions, these variations should be considered as separate environmental aspects and impacts when determining priority level. Alternatively, the highest severity and frequency scores may be selected.

3.2.3 Step 3: Group environmental aspects and impacts for manageability and assign environmental aspect categories.

a. Where practical, Centers may group environmental aspects and associated environmental impacts to ensure that further analysis is manageable.

b. Center management shall take the output from Step 2 and any grouping that has been conducted in Step 3 and assign environmental aspect categories, as appropriate.

c. Where an environmental aspect and its associated environmental impacts may apply to more than one environmental aspect category, the category selection is based on best professional judgment.

d. The Center is free to determine the category into which an individual environmental aspect is placed within the list of 17 categories in Table 3-1. Category 17 will be used for the addition of Center-specific environmental aspects or unique compliance obligations, such as mutual aid agreements, host-tenant agreements, concessionaire agreements, memoranda of understanding, Space Act agreements and Commercial Space Launch Act agreements, as well as land use agreements, programmatic agreements with the SHPO, and Center-specific Biological Opinions.

Table 3-1, Environmental Aspect Categories

1	**Air Emissions,** including: Stationary and point sources Mobile sources Ozone-depleting substances Fugitive emissions Greenhouse gases
2	**Cultural Resources,** including: Archaeological resources Historic resources
3	**Efficient Fleet Management,** including: Acquisition of alternative-fuel vehicles Alternative-fuel infrastructure Fleet size reductions Fuel use reductions
4	**Energy/Water Consumption,** including: Reduction in energy use Reduction in water consumption Use of renewable energy
5	**Environmental Review,** including: Environmental justice National Environmental Policy Act (NEPA) Noise Non-ionizing radiation Odors Socioeconomic impacts
6	**Fuel, Oils, and Lubricants,** including: Container storage Aboveground storage tanks Underground storage tanks Generators Transformers Hydraulic systems Spill prevention control and countermeasures Spill response

7	**Hazardous Materials,** including: Hazardous materials storage Emergency planning and response Community right-to-know Reduction in the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed (e.g., reuse)
8	**Regulated Waste,** including: Collection and storage Off-site shipment and disposal Hazardous waste Hazardous waste recycling Hazardous waste treatment, storage, and disposal facilities Medical waste State-regulated industrial or chemically contaminated wastes Universal and special wastes
9	**Natural Resources,** including: Land use and resources Wetlands and floodplains Threatened and endangered species Wildlife Ecosystems Oceans and coastal zones
10	**Remediation/Restoration,** including: Comprehensive Environmental Response, Compensation, and Liability Act sites Resource Conservation and Recovery Act sites Tank sites
11	**Solid Waste (non-hazardous),** including: General trash Construction waste Solid waste landfills Waste prevention and recycling
12	**Sustainable Acquisition,** including: Purchasing green goods and services Electronics stewardship
13	**Sustainable Facilities,** including: Encroachment High-performance and sustainable buildings
14	**Toxic Substances,** including: Asbestos Lead products (including paint) Mercury Polychlorinated biphenyls Pesticides/herbicides Radioactive materials

15	**Water Quality,** including: Drinking water Groundwater Storm water Sanitary or domestic wastewater Industrial wastewater Eutrophication
16	**Executive Order (EO) Monitoring and/or Reporting Requirements**
17	**Center-Specific Obligations**

3.2.4 Step 4: Categorize environmental risks/opportunities.

a. Center management shall manage "high-priority environmental aspects" so as to:

(2) Avoid or prevent a serious adverse environmental risk.

(3) Create a substantial beneficial environmental opportunity.

b. Each individual or grouped environmental aspect will be classified into one or more of the following categories by assigning associated environmental risks/opportunities:

(1) Safety

(2) Natural and cultural resources (NCR)

(3) Compliance obligations

(4) Performance

(5) Reputation and stakeholder relationships (R&S)

(6) Cost

(7) Schedule

c. Center management shall consider both adverse risks (R) and beneficial opportunities (O) within the framework in Table 3-2.

d. The Center may adjust the EMS risks (R) and opportunities (O) scoring in Table 3-2 to meet the needs of the site. The objective of this scoring system is to ensure that only a few aspects will receive the highest scores in any category. Center management shall ensure that the adjustments to the scoring are geared to drive this objective and are documented.

Table 3-2, NASA EMS Risk (R)/Opportunity (O) Categories

Safety	Score
(R/O) Negligible risk or opportunity.	1
(O) Avoids source of nuisance or irritant. (R) Nuisance or irritant.	2
(O) Avoids minor injury or human health impact. (R) Minor injury or human health impact.	3
(O) Eliminates source of substantial injury/lost time or human health impact. (R) Potential source of substantial injury/lost time or human health impact.	4
(O) Eliminates potential source of death or disabling injury. (R) Potential source of death or disabling injury.	5

Natural and Cultural Resources (NCR)	Score
(R/O) Negligible impact or benefit on natural or cultural resources.	1
(O) Results in minor improvement to natural or cultural resources. (O) Results in minor improvement in sustainable practices. (R) Minor impact on natural or cultural resources.	2
(O) Supports conservation of natural or cultural resources. (O) Results in moderate improvement in sustainable practices. (O) Moderate reduction of impacts on natural or cultural resources. (R) Moderate impact on natural or cultural resources.	3
(O) Prevents substantial impact to onsite, protected, natural, or cultural resources. (O) Results in substantial restoration or conservation of/improvements to onsite protected natural or cultural resources. (O) Results in substantial improvement in sustainable practices. (R) Substantial onsite impact on protected natural or cultural resources.	4
(O) Prevents off-site damage to natural or cultural resources. (O) Results in expanded off-site natural or cultural resources. (O) Results in sustainable off-site improvement in sustainable practices. (R) Off-site damage to natural or cultural resources.	5

Compliance Obligations	Score
(R/O) Negligible regulatory action.	1
(O) Improve relationship with regulators. (O) Avoids an informal notice. (R) Informal notice.	2
(O) Avoids a potential notice of violation with no fine. (O) Minor incentive, such as eliminates a minor regulatory requirement. (R) Notice of violation with no fine.	3
(O) Major incentive, such as regulatory relief. (R) Significant fine, consent agreement, unilateral order, or noncompliance with legal and other requirements.	4
(O) Significant incentive, such as eliminate regulatory requirement. (R) Work stoppage. (R) Criminal sanctions.	5

Performance	Score
(R/O) Negligible risk to mission/institutional capability.	1
(O) Temporary enhancement of mission/institutional capability. (R) Temporary loss of mission/institutional capability.	2
(O) Moderate enhancement to mission/institutional capability. (R) Moderate loss of mission/institutional capability. Workaround available.	3
(O) Significant enhancement to mission/institutional capability. (R) Significant loss of mission/institutional capability. Workaround available.	4
(O) Permanent enhancement to mission/institutional capability. (R) Permanent loss of mission/institutional capability.	5

Reputation and Stakeholder Relationship (R&S)	Score
(R/O) Negligible media interest or effect on NASA reputation or stakeholder relations.	1
(O) Minor increase in positive public inquiries or stakeholder support. (R) Minor adverse effect on NASA reputation or stakeholder relations.	2
(O) Moderate increase in positive public inquiries or stakeholder support. (R) Moderate adverse effect on NASA reputation or stakeholder relations.	3
(O) Substantial increase in positive public inquiries or stakeholder support. (R) Substantial adverse effect on NASA reputation or stakeholder relations.	4
(O) Major increase in positive public inquiries or stakeholder support. (R) Major increase in negative public inquiries/mandatory meeting attendance. (R) Potential mission risk.	5

Cost	Score
(R/O) Negligible benefit or cost impact.	1
(R/O) Net benefit or cost of less than $50,000.	2
(R/O) Net benefit or cost of $50,000 to less than $100,000.	3
(R/O) Net benefit or cost of $100,000 to $500,000.	4
(R/O) Net benefit or cost of greater than $500,000.	5

Schedule	Score
(R/O) Negligible schedule change.	1
(O) Accelerates mission/project schedule by 1 day to less than 1 month. (R) Delays mission/project schedule by 1 day to less than 1 month.	2
(O) Accelerates mission/project schedule by 1 month to less than 3 months. (R) Delays mission/project schedule by 1 month to less than 3 months.	3
(O) Accelerates mission/project schedule by 3–6 months. (R) Delays mission/project schedule by 3–6 months.	4
(O) Accelerates mission/project schedule by greater than 6 months. (R) Delays mission/project schedule by greater than 6 months.	5

3.2.5 Step 5: Determine the environmental risk/opportunity severity score for each category.

a. For each environmental aspect, Center management shall use the environmental risk/opportunity categories in Table 3-2 to determine the numerical score for the applicable category.

b. Center management shall ensure that determination of severity scores includes the effect of management controls in place to mitigate environmental risks or secure existing opportunities.

3.2.6 Step 6: Determine the probability score for each category.

a. Center management shall assign a numerical, probability-based score to each environmental aspect, using the applicable risk/opportunity categories and the probability rating of the risk/opportunity.

b. Center management shall ensure that probability scores include the potential effect of management controls in place to mitigate environmental risks or secure existing opportunities.

c. Taking into account the historical record of such an incident occurring, Center management shall use Table 3-3 to determine the probability score for each scenario.

d. Center management shall assign the score that corresponds with the probability rating.

Table 3-3, NASA EMS Probability Scoring

Probability Rating	Ordinal Value	Description of Risk Probability (Examples)
Very Low	**1**	**Qualitative:** Very unlikely to occur, management not required in all cases. Either strong controls are in place or controls are not required. OR **Frequency:** Minimum of once every 10+ years.
Low	**2**	**Qualitative:** Not likely to occur, management not required in most cases. Current controls have minor limitations/uncertainties and may need to be strengthened. OR **Frequency:** Once every 5 years to once every 10 years.
Moderate	**3**	**Qualitative:** May occur, management required in some cases. Current controls exist with some uncertainties, need for review is evident. OR **Frequency:** Once a year to once every 5 years.
High	**4**	**Qualitative:** Highly likely to occur, most cases require management attention. Current controls have significant uncertainties, corrective actions likely. OR **Frequency:** Once a month to once a year.
Very High	**5**	**Qualitative:** Nearly certain to occur, requires immediate management attention. Current controls have little or no effect. Implementation of corrective action is mandatory. OR **Frequency:** Continuous to once a month.

3.2.7 Step 7: Determine overall priority level.

a. Center management shall determine the priority level of the associated environmental aspect based on the environmental risk/opportunity severity versus probability using the 5x5 Risk Matrix illustrated in Figure 3-2.

PROBABILITY						
	5 Very High	L	M	H	H	H
	4 High	L	M	M	H	H
	3 Moderate	L	L	M	M	H
	2 Low	L	L	M	M	M
	1 Very Low	L	L	L	L	M
		1 Very Low	2 Low	3 Moderate	4 High	5 Very High
		RISK/OPPORTUNITY				

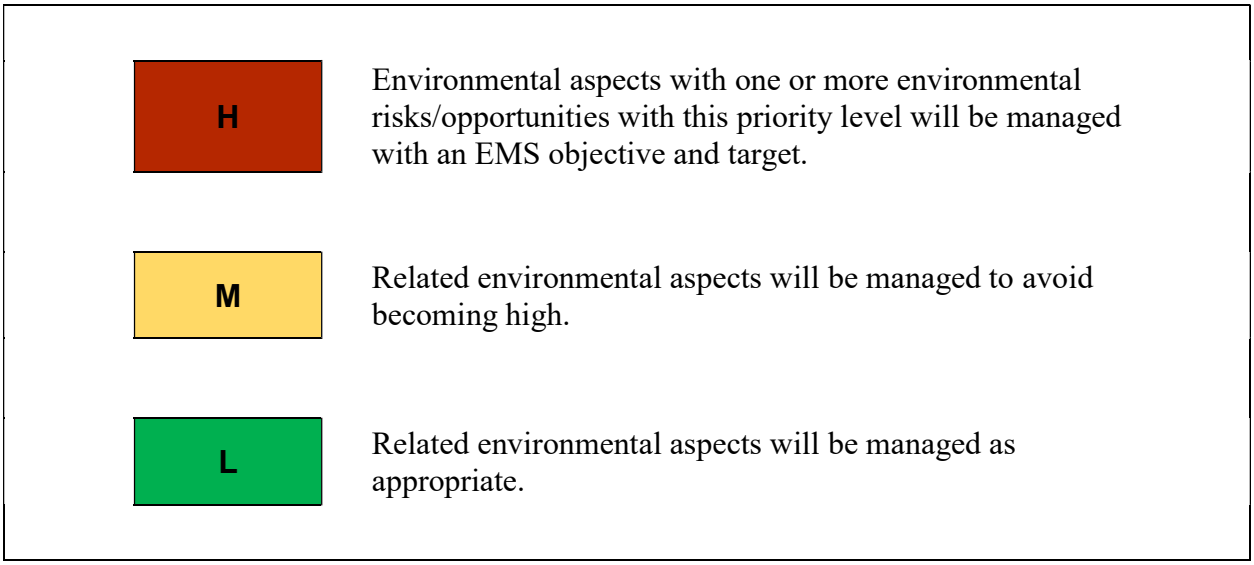

Figure 3-2, 5x5 Risk Matrix With Priority-Level Categories

b. The overall priority level for each environmental aspect is determined by the risk/opportunity associated with the most severe scores.

c. Center management shall ensure that the Center's aspect inventory is reviewed and updated annually. This review will be based on anticipated changes in Center operations, known abnormal/emergency situations, and changes to compliance obligations.

d. If interested party (Component Facility, contractor, partner, commercial tenant) personnel are required to conduct Steps 1 through 6, the Center EMS Representative and appropriate

environmental subject matter experts shall review and approve, modify, or reject the data or request further analysis, in addition to making the overall risk-ranking determination.

3.2.8 Step 8: Set objectives, targets, and programs.

Center management shall determine which environmental aspects, associated with specific activities, products, and services, require objectives and targets as defined in Section 3.4.

3.3 Compliance Obligations

3.3.1 Center management shall establish and maintain procedures to identify and document:

a. Compliance obligations applicable to the environmental aspects of NASA's activities, products, and services.

b. The environmental risks and applicable compliance obligations associated with NASA-wide and Center-specific contracts, partnerships, agreements, and commitments. See Section 1.3.4.

3.3.2 Center management shall develop, implement, and maintain procedures for the annual evaluation of the applicability of compliance obligations, as well as any proposed changes to existing compliance obligations, to Center activities and operations.

3.3.3 Center management shall consider compliance obligations in establishing, implementing, and maintaining the Center's EMS and ensure:

a. All applicable compliance obligations are available to appropriate individuals at the Center and to Mission Directorates and Mission Support Offices, on request.

b. Center Offices of Chief Counsel are consulted, as necessary, in fulfilling responsibilities under Section 3.3.

3.4 Objectives, Targets, and Programs

3.4.1 Center management shall ensure appropriate organization levels establish and document objectives and targets, as needed for implementing and maintaining the EMS. The determination of the need for objectives and targets will be made by the appropriate NASA authority; objectives and targets may be suggested by other interested parties.

3.4.2 Center management shall ensure objectives and targets are:

a. Consistent with the environmental policy.

b. Measurable (if practicable).

c. Monitored.

d. Communicated.

e. Maintained.

3.4.3 When establishing objectives and targets, management at each Center shall consider:

a. Compliance obligations.

b. Priority environmental aspects.

c. Risks and opportunities.

3.4.4 Center management shall establish specific objectives and targets, that are technically feasible and economically reasonable, to address high-priority environmental aspects. If the determination is made that a high-priority environmental aspect cannot be addressed with one or more objectives and targets, because it is not technically feasible or is economically unreasonable, the rationale behind this determination will be documented. Objectives and targets may be established by Center management for medium- or low-priority aspects, as necessary, to address other Federal, Agency, or Center goals and commitments.

3.4.5 Center management shall establish, document, implement, and maintain EMPs for achieving the established objectives and targets. Each EMP will address:

a. What will be done.

b. What resources will be required.

c. The personnel responsible for initiation, oversight, and completion.

d. A timeframe for completion, including milestones, as appropriate.

e. Progress toward completion.

f. How the results will be evaluated.

Chapter 4. Support

4.1 Resources

Center management shall provide the resources needed for establishing, implementing, maintaining, and continually improving the EMS. Resources required for the EMS should include human resources, organizational infrastructure, technology, and funding.

4.2 Competence and Awareness

4.2.1 Competence

4.2.1.1 Center management shall identify requirements to ensure that all persons working within the scope of the EMS whose work affects the Center's environmental performance and its ability to fulfill its compliance obligations are competent, on the basis of education, training, or experience. Personnel engaged in activities associated with the Center's environmental aspects or EMS will receive appropriate education, training, or experience, as determined by the Center.

4.2.1.2 Center management shall identify and retain as documented information:

a. Training mandated by compliance obligations.

b. Those who need to be trained and those who will do the training.

c. A description of how the environmental training will be accomplished; how often the training is required; and which EMS element, high-priority aspect, or compliance obligation is driving the training.

4.2.2 Awareness

4.2.2.1 Center management shall ensure personnel working within the scope of the EMS are provided training to ensure they are aware of the following:

a. Agency-level and Center-specific environmental policies.

b. High-priority environmental aspects associated with their work.

c. Applicable training requirements.

d. Their responsibility to contribute to the effectiveness of the EMS, including the benefits of improved environmental performance.

e. The risks associated with not meeting EMS requirements, including not fulfilling the Center's compliance obligations.

4.2.2.2 Center management shall ensure that the procurement statement of work for any contractor operation included in the scope of the EMS specifies training requirements, which employees require training, how contractor employees can obtain training, and how and where contractor employees will maintain training records.

4.2.2.3 The management office responsible for procurement actions shall ensure contractor training records are maintained in accordance with NPR 1441.1, NASA Records Management Program Requirements, section 4.5.

4.3 Communication

4.3.1 Center management shall establish, implement, and maintain procedures for internal and external communication related to environmental aspects and the EMS including:

a. To whom it will communicate.

b. What it will communicate.

c. When to communicate.

d. How the communication should be accomplished.

4.3.2 Internal communication

4.3.2.1 Center management shall ensure:

a. Information relevant to the EMS and compliance obligations is internally communicated among various organizational levels.

b. Its communication processes enable persons doing work under the organization's control to contribute to continual improvement.

c. Documented information is maintained to confirm required communication is completed.

4.3.3 External communication

4.3.3.1 Center management shall ensure that:

a. Established communication procedures are followed in communicating with external parties.

b. Unless an authorized individual at the Center determines that disclosure of information regarding high-priority environmental aspects would harm an interest protected by one of the Freedom of Information Act exemptions or that disclosure is prohibited by law, information regarding environmental aspects will be provided to interested parties, if requested.

c. EMS requirements are documented within contracts no later than the time of the next contract competition.

d. Applicable EMS requirements are communicated to tenants, subject to the limitations of tenancy agreements.

4.4 Documented Information

4.4.1 Center Directors shall ensure the Center maintains all documented information required by this NPR including, but not limited to, the documentation listed in Appendix C, as well as:

a. An EMS manual (or other Center-level documents) that provides a description of the EMS elements and their interaction, as developed, implemented, and maintained by the Center.

b. Policies and procedures that provide overall direction for the Center's processes.

c. This NPR and other procedures that support and provide details of the Center's processes, particularly those related to the high-priority aspects (operational controls).

d. Records that document completion of compliance obligations, the results of EMS activities, and all documents and records required by this NPR.

4.4.2 Additional requirements for EMS documented information are located in Appendix C. In addition, each Center may establish local documentation requirements for its EMS.

4.5 Control of Documented Information

4.5.1 Center management shall establish control procedures for EMS documented information and ensure that:

a. EMS documented information is periodically reviewed and updated to ensure it is current and accurate.

b. Obsolete EMS documents are removed. Obsolete EMS documents that are retained for legal and/or historical reasons are identified with the reason for retention and archived.

c. EMS documents and documented procedures are:

(1) Legible.

(2) Dated (with dates of revision and a summary of changes).

(3) Readily available in locations where essential operations occur.

(4) Identifiable.

(5) Maintained in an orderly manner.

(6) Approved by appropriate Center management prior to issue.

d. Electronic or hardcopy versions of EMS documents under the Center EMS Representative's control meet the requirements of 4.5.1 c.

e. Documents of external origin determined by the Center to be a necessary component of the EMS, such as permits and other documents associated with compliance obligations, are identified as such and their distribution controlled.

4.5.2 Records

4.5.2.1 Center management shall establish and maintain a records retention schedule for EMS records per NPR 1441.1 and ensure that:

a. Environmental records are legible, identifiable, and traceable to an activity, product, or service.

b. Environmental records are identified, maintained, and stored in a manner consistent with NPR 1441.1 that:

(1) Allows for their ready retrieval.

(2) Protects them from loss, damage, or deterioration.

(3) Provides for their appropriate disposal.

c. A list of records that have been identified as pertaining to the EMS is provided in Appendix C.

4.5.2.3 The management office responsible for environmental compliance shall ensure that external compliance records are both maintained according to external requirements and readily available.

Chapter 5. Operation

5.1 Operational Planning and Control

5.1.1 Center management shall develop, implement, and maintain operational controls and operational control procedures:

a. For activities associated with high-priority environmental aspects.

b. To manage all other environmental aspects to keep them from becoming high priority, as needed.

c. To manage NASA EMS and environmental compliance activities.

5.1.2 Center management shall ensure that operational controls and operational control procedures associated with high-priority environmental aspects:

a. Stipulate specific operating and maintenance criteria.

b. Are documented in contracts and communicated to contractors who have the potential to affect high-priority aspects.

c. Are communicated to suppliers and tenants who have the potential to affect high-priority aspects.

5.1.3 If a contractor, partner, or tenant operates a Government facility or vehicles or affects high-priority aspects, the management office responsible for procurement actions shall ensure that contract, partnership, and/or tenant agreements include the requirements and operational controls to support the EMS and the Center's compliance obligations.

5.1.4 Center management shall ensure that operational controls are in place to address planned changes in operations.

5.1.5 Center management shall review the consequences of unplanned changes to mitigate any adverse impacts, as necessary.

5.2 Emergency Preparedness and Response

5.2.1 Center management shall establish, implement, and maintain documented procedures to address potential emergency situations and their attendant risks and ensure:

a. Based on the activities in which they are engaged, personnel working within the scope of the EMS receive appropriate training on emergency preparedness and response requirements:

(1) Associated with environmental aspects and impacts identified in Section 3.1.

(2) As required by compliance obligations.

(3) Associated with other potential emergency situations such as fire, explosion, or natural disasters.

b. Procedures to meet emergency preparedness training, planning, procedures, and requirements are contained within plans including, but not limited to, Center Emergency Preparedness

Program Plans; Integrated Contingency Plans; Center Spill Prevention, Control, and Countermeasure Plans; and/or Pollution Prevention Plans.

5.2.2 Center management shall periodically test the Center's emergency plans and procedures with respect to its environmental aspects, where practical, and retain documented test results.

5.2.3 Center management shall periodically review its emergency plans and procedures with respect to its environmental aspects, especially after an emergency situation or test and, where necessary, revise the plans/procedures and document lessons learned.

5.2.4 Center management shall maintain documented information to confirm that emergency response plans and procedures are effectively implemented and maintained.

Chapter 6. Performance Evaluation

6.1 Monitoring, Measurement, Analysis, and Evaluation

6.1.1 Center management shall establish, implement, and maintain procedures to evaluate environmental performance and the effectiveness of the EMS.

6.1.2 Center management shall ensure that the key characteristics of operations associated with EMS objectives and targets, environmental aspects, and compliance obligations are tracked, monitored, and measured.

6.1.3 Center management shall establish procedures to identify:

a. What is required to be monitored and measured (e.g., progress in implementing EMPs, hazardous waste generation, spills).

b. The method(s) to be used for monitoring, measurement, analysis, and evaluation.

c. The criteria against which environmental performance is evaluated and appropriate performance indicators.

d. The frequency of performance of monitoring and measurement.

6.1.4 Center management shall ensure that documented information to verify that required monitoring and measurement is performed and appropriate analysis and evaluation completed is retained.

6.1.5 NASA HQ EMD shall establish and implement a schedule for the documenting and reporting of metrics for Agency-level requirements.

6.1.6 Center management shall ensure that equipment used for monitoring and measurement is appropriately maintained and calibrated and calibration records are maintained.

6.2 Evaluation of Compliance

6.2.1 Center management shall develop, implement, and maintain a procedure to describe the methods used to evaluate performance against all applicable compliance obligations. The procedure should ensure that all requirements identified in Section 3.3 of this NPR are evaluated for compliance.

6.2.2 HQ EMD shall lead Environmental and Energy Functional Reviews (EEFRs) that include an environmental compliance evaluation every 3 years, in accordance with the requirements of NPD 1210.2, NASA Surveys, Audits, and Reviews Policy.

6.2.3 Center management shall support HQ EMD-led EEFRs as necessary to ensure that Center programs, projects, facilities, systems, and operations are adequately evaluated for compliance with all environmental compliance obligations.

6.2.4 Center management shall conduct annual, internal environmental compliance evaluations during the years that HQ EMD-led EEFRs are not conducted and ensure:

a. Performance against all compliance obligations (as identified in Section 3.3) is reviewed over a 3-year period.

b. Personnel performing evaluations of compliance are competent.

c. The compliance evaluation process and results of the evaluation of compliance are retained as documented information.

6.2.5 If the Center utilizes the HQ EEFR for part of its internal compliance evaluation, Center management shall coordinate its audit schedule with the HQ EEFR to ensure that all appropriate requirements and appropriate organizational elements are evaluated within the 3-year period.

6.3 Internal Audit

6.3.1 Each NASA Center Director shall ensure support to the HQ EMD-led EEFRs as necessary to ensure that Center programs, projects, facilities, systems, and operations comply with all environmental requirements, including requirements of this NPR.

6.3.2 Center management shall establish and maintain programs and procedures for annual internal EMS audits that:

a. Address the responsibilities and requirements for the determination of the internal audit criteria, scope, and methods.

b. Ensure that the audit addresses the high-priority aspects, changes potentially affecting the Center, and the results of previous audits.

6.2.3 Center management shall conduct annual internal EMS audits in the years that HQ EMD-led EEFRs are not conducted. When conducting their annual EMS audits, Centers may utilize the NASA EMS Checklist.

6.3.4 In conducting the annual EMS audits, Center management shall internally review all elements of its EMS for conformance with this NPR, as applicable to all organizations within the scope of the EMS, over a 3-year period.

a. Center management will consider results of previous HQ EMD-led EEFRs, Center-led annual EMS audits, and annual compliance evaluations when conducting EMS internal audits.

6.3.5 The HQ EMD shall conduct an EEFR every 3 years. Results of previous EEFRs will be considered by the HQ EMD when conducting EEFRs.

6.3.6 HQ EMD shall provide documented information regarding the results of annual internal audits, compliance evaluations, and EEFRs to Center senior management.

Chapter 7. Management Review

7.1 Review Contents

7.1.1 Center management shall review the EMS annually to ensure its continuing suitability, adequacy, and effectiveness and ensure that these reviews consider:

a. The status of actions from previous management reviews.

b. Changes in:

(1) External and internal issues relevant to the EMS.

(2) The needs and expectations of interested parties, including compliance obligations.

(3) High-priority environmental aspects.

(4) Risks and opportunities.

c. The extent to which environmental objectives have been achieved.

d. Information on the organization's environmental performance, including trends in:

(1) Nonconformities and corrective actions.

(2) Monitoring and measurement results.

(3) Fulfilment of its compliance obligations.

(4) Audit results.

e. Adequacy of financial and human resources.

f. Communication(s) from interested parties, including complaints.

g. Opportunities for continual improvement.

7.2 Documented Outputs

7.2.1 Center management shall ensure that documented outputs from the management review include:

a. Conclusions on the continuing suitability, adequacy, and effectiveness of the EMS.

b. Decisions related to continual improvement opportunities.

c. Decisions related to any need for changes to the EMS, including:

(1) Financial or human resources.

(2) Remedial actions for environmental objectives which have not been achieved.

(3) Opportunities to improve integration of the EMS with other business processes.

(4) Any implications for the strategic direction of the organization.

7.2.2 The Center EMS Representative shall ensure that records, such as slides, meeting minutes, and a roster of attendees, of the management reviews are retained.

7.3 Center EMS Representative Responsibilities

7.3.1 The Center EMS Representative is responsible for the following:

a. Reporting to the Center Director and NASA HQ EMD on the status and viability of the Center's EMS and the results of Center-led annual evaluations of compliance and internal audits.

b. Working with the CFT to implement the decisions and directions resulting from the management review.

7.4 Declaration of Conformance

7.4.1 The Center Director shall issue a Declaration of Conformance that the Center EMS conforms to applicable requirements of this NPR, which addresses requirements of ISO 14001:2015, Environmental Management Systems — Requirements With Guidance for Use, International Organization for Standardization.

7.4.2 For a Declaration of Conformance, the EMS may be considered fully implemented when the following conditions have been met:

a. The EMS has been subject to an audit by a qualified party outside of its control or scope. The Center may utilize the HQ EMD-led EEFR or an independent conformance audit to satisfy this requirement.

b. No major EMS nonconformances or findings of environmental noncompliance remain open without approved corrective action plans in place.

c. The audit findings have been recognized by appropriate Center management.

7.4.3 The Declaration of Conformance will be renewed every 3 years in conjunction with the requirement for an audit by a qualified party outside the control or scope of the Center EMS.

Chapter 8. Improvement

8.1 Nonconformity and Corrective Action

8.1.1 Center management shall establish, implement, and maintain procedures for assigning responsibility and authority and for identifying, investigating, and correcting findings of nonconformance and noncompliance.

8.1.2 When a finding of nonconformance or noncompliance is identified, personnel responsible for implementing corrective action will review the nonconformance or noncompliance to:

a. Identify the root cause(s) of the finding.

b. Determine the environmental risk.

c. Implement corrective action(s) appropriate to the risk.

d. Review the effectiveness of the corrective actions to ensure that the nonconformance or noncompliance does not reoccur.

8.1.3 Center management shall retain documented information providing evidence of:

a. The finding of nonconformance or noncompliance.

b. Root cause of the finding.

c. Corrective actions necessary.

d. Validation of successful corrective action.

8.1.4 Repeat findings of nonconformance or noncompliance, following implementation of corrective action, will be communicated to Center management in accordance with Center procedures.

8.1.5 The recipient of a Notice of Violation from a regulatory agency shall notify Center management and HQ EMD immediately upon receipt.

8.2 Continual Improvement

Center management shall continually improve the suitability, adequacy, and effectiveness of the EMS to enhance environmental performance.

Appendix A. Definitions

Audit. Systematic and documented process for obtaining evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled.

Biological Opinion. A document that is the product of formal consultation, stating the opinion of the U.S Fish and Wildlife Service or the National Marine Fisheries Service on whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Center management. Person or group of people who directs and controls the organization and has the power to delegate authority and provide resources at the highest level.

Competence. Ability (training, education, and experience) to apply knowledge and skills to achieve intended results.

Compliance Evaluation. Audit of performance against all applicable compliance obligations.

Compliance Obligations. Legal requirements and other requirements with which the Center must or chooses to comply.

Component Facility. A secondary NASA installation reporting to, but possibly geographically separate from, the primary NASA Center.

Concessionaire. The owner or operator of a concession.

Conformity. Fulfilment of a requirement.

Continual Improvement. Recurring activity to enhance environmental performance.

Contractor. An individual or company that performs services for NASA under a contract that specifies the terms of the agreement, such as schedule, duties, environmental responsibilities, etc.

Cooperating Agency. Any Federal agency that has jurisdiction, by law or special expertise, with respect to any environmental impact created by a project.

Corrective Action. Action to eliminate the cause of a nonconformity or noncompliance and to prevent recurrence.

Cross Functional Team (CFT). Personnel, representing a cross-section of the organization's operations, who assist the Environmental Management System (EMS) Representative with implementing and maintaining the EMS.

Declaration of Conformance. A formal statement by appropriate Center management confirming that, based on a formal audit conducted by qualified personnel outside the control or scope of the EMS every 3 years, the EMS is fully implemented in conformance with the applicable requirements of this NPR.

Documented Information. Information, including documents and records, required to be documented, controlled, and maintained.

EMS Representative. The individual assigned responsibility for implementation and maintenance of the EMS and reporting to Center management and NASA Headquarters (HQ) Environmental Management Division (EMD) on the status of the EMS.

Environment. Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelationships.

Environmental and Energy Functional Review (EEFR). An audit conducted every 3 years by NASA HQ EMD in accordance with NPD 1210.2. The EEFR is considered a Survey, Audit, and/or Review (SAR) addressing the EMS, environmental compliance and related activities at a NASA Center.

Environmental Aspect. Element of a Center's activities, products, or services that interacts or can interact with the environment.

Environmental Impact. Change to the environment, whether adverse or beneficial, wholly or partially resulting from an environmental aspect.

Environmental Management Program (EMP). The Center's documented approach to implementation of an objective and associated target(s).

Environmental Management System (EMS). The system used to manage environmental aspects, fulfil compliance obligations, and address risks and opportunities.

Environmental Policy. Intentions and directions of an organization related to its environmental performance, as formally expressed by its top management.

Interested Party. A person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity, for example customers, communities, suppliers, regulators, non-governmental organizations, and employees.

Internal Audit. Audit of the implementation and maintenance of the EMS performed by competent organization personnel.

ISO 14000. A series of environmental management standards developed by the Internal Organization for Standardization (ISO) to provide an internationally recognized framework for environmental management.

Lead Agency Component. The agency component responsible for EMS implementation and environmental compliance.

Management System. A set of interrelated or interacting elements of an organization to establish policies, objectives, and processes to achieve those objectives. The system comprises the organization's structure, roles, responsibilities, planning, operation, performance evaluation, and improvement.

Monitoring. Determining the status of a system, a process, or an activity.

NASA Online Directives Information System (NODIS). An Internet application for creating and maintaining NASA directives electronically.

Nonconformity. Non-fulfillment of an EMS requirement.

Noncompliance. Non-fulfillment of a compliance obligation.

Objective. Result to be achieved.

Operational Controls. Measures, including process design, technology, plans, procedures, training, and other methods to ensure that processes are effective and environmental risk is minimized.

Opportunity. Potential beneficial effect.

Organization. Person or group of people with responsibilities, authorities, and relationships to achieve its objectives.

Partner. Any entity that establishes a cooperative agreement with NASA that involves non-permanent transfer of NASA-owned real property such that there is a direct transfer of responsibility for maintaining the environmental compliance for that property. A partner is accountable to NASA, per the partnership agreement, for maintaining compliance with all applicable compliance obligations. NASA retains ultimate accountability for the environmental compliance of the organization/property.

Pollution Prevention. The use of practices, techniques, materials, products, services, or energy to avoid, reduce, or control (separately or in combination) the creation, emission, or discharge of any type of pollutant or waste in order to reduce adverse environmental impacts.

Risk. Potential adverse effect of uncertainty.

Scope. The scope of a management system can include the whole of the organization, specific identified functions within the organization, or one or more functions across a group of organizations.

Tenant. Any entity that establishes a temporary or permanent residence on NASA-owned real property. Responsibility for environmental compliance of the tenant activities may or may not be transferred from NASA to the tenant, dependent on the terms of the host/tenant agreement.

Appendix B. Acronyms

CFR	Code of Federal Regulations
CFT	Cross-Functional Team
CRM	Continuous Risk Management
EEFR	Environmental and Energy Functional Review
EMD	Environmental Management Division
EMP	Environmental Management Program
EMS	Environmental Management System
EO	Executive Order
H	High (action priority category)
HQ	Headquarters
ISO	International Organization for Standardization
JPL	Jet Propulsion Laboratory
L	Low (action priority category)
L&R	Environmental Legal and Regulatory Implications (environmental consequence category)
M	Medium (action priority category)
NASA	National Aeronautics and Space Administration
NCR	Natural and Cultural Resources Impacts (environmental consequence category)
NEPA	National Environmental Policy Act
NODIS	NASA Online Directives Information System
NPD	NASA Policy Directive
NPR	NASA Procedural Requirement
O	Opportunities
R&S	Reputation and Stakeholder Relationships (environmental consequence category)
R	Risks
RIDM	Risk-Informed Decision Making
SAR	Survey, Audit, and/or Review
SHPO	State Historic Preservation Officer

Appendix C. Documented Information

Policies, procedures, documents, and records required by this NPR, the Agency, the Center, and/or external compliance obligations will be readily available.

C.1 Agency Level

a. All applicable NPDs and NPRs (see Appendix D).

b. NASA Environmental Policy.

c. Metrics for Agency-level requirements.

d. Procedures for conducting Environmental and Energy Functional Reviews (EEFRs).

e. Results of EMD HQ EEFRs.

f. Declarations of Conformance.

C.2 NASA Centers

a. A scope that defines the boundaries for the Environmental Management System (EMS) and exclusions from the scope.

b. Environmental policies that set the overall goals for the EMS.

c. Assignment of roles, responsibilities, and authorities for implementation and maintenance of the EMS.

d. Identified risks and opportunities.

e. Planning processes to address the risks and opportunities.

f. Environmental aspects and associated impacts.

g. Criteria used to determine significance.

h. Significant aspects, as determined by the Center following the process in Chapter 3.

i. Compliance obligations.

j. The objectives and targets established to initiate continual improvement in environmental performance.

k. Environmental Management Programs (EMPs) to achieve objectives and targets.

l. EMS and environmental training requirements and procedures.

m. Training records and other evidence to confirm the competence of personnel.

n. Records of internal and external communication.

o. Operational controls.

p. Records required by operational controls.

q. Emergency response procedures.

r. Records of emergency response exercises and response to actual emergencies.

s. Results of monitoring, measurement, analysis, and evaluation of performance.

t. Records to confirm that calibrated/verified monitoring and measurement equipment is used and maintained.

u. Compliance evaluation results.

v. Evidence of implementation of an internal EMS audit program.

w. Internal EMS audit results.

x. Management review minutes and recommendations.

y. Identified findings of nonconformance or noncompliance and corrective actions assigned.

z. Results of corrective actions.

aa. The EMS manual (or other documents), which describe the EMS elements and their interaction, as developed, implemented, and maintained by the Center.

bb. Policies and procedures that provide overall direction for the Center's processes.

cc. This NPR and other procedures that support and provide details of the Center's processes, particularly those related to the high-priority aspects (operational controls).

dd. Records that document the results of EMS activities and documents and records required by this NPR.

ee. EMS procedures applicable to partners, tenants, contractors, contractor operated facilities, grant recipients, and parties to agreements.

Appendix D. References

D 1. Freedom of Information Act, 5 U.S.C. 552.

D 2. National Aeronautics and Space Act of 1958, as amended, 42 U.S.C. 2473(c)(1).

D 3. National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321 et seq.

D 4. Policy on Environmental Quality and Control, 14 CFR Subpt. 1216.1.

D 5. Federal Compliance With Right-to-Know Laws and Pollution Prevention Requirements, 48 CFR, Subpart 23.10.

D 6. NPD 1000.3, The NASA Organization.

D 7. NPD 1001.0, NASA Strategic Plan. (Includes NASA Vision and Mission.)

D 8. NPD 1440.6, NASA Records Management.

D 9. NPD 8710.1, Emergency Management Program.

D 10. NPD 9010.2, Financial Management.

D 11. NPR 8000.4, Agency Risk Management Procedural Requirements.

D 12. NPR 8530.1, NASA Sustainable Acquisition.

D 13. NPR 8621.1, NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping.

D 14. NPR 8715.2, NASA Emergency Management Program Procedural Requirements.

D 15. NPR 8715.3, NASA General Safety Program Requirements.

D 16. ISO 14401:2015, Environmental Management Systems — Requirements With Guidance for Use, International Organization for Standardization (ISO), 2015.

D 17. ISO 19011:2018 Guidelines for Auditing Management Systems, ISO, 2018.